

PHENIX PLANNING

Technical Support Plan for 2006

Don Lynch

(updated 2/6/06)

- Recover from water in dry air system/ MuTr repairs -December '05 [DONE]
- MPC South - January '06 [DONE]
- Prepare for Run 6 - January-February '06
- RXNP magnet test - February '06
- Beam Loss Monitor Test - February '06-June '06
- Run 6 - February-June '06
- HBD Test Installation - April-May '06
- TOF West - July '06
- RXNP - August '06
- HBD - August '06
- MPC North - September '06
- Prepare for run 7 - September-October '06
- Run 7 - November '06 - June '07

PHENIX Technical Support 2006

TOF W Installation



**TOF W
Installation
Fixture and
access platform**

*Ready to install
detectors when
they arrive.
Installation
scheduled for
shutdown 2006.*

PHENIX Technical Support 2006

TOF W Fabrication



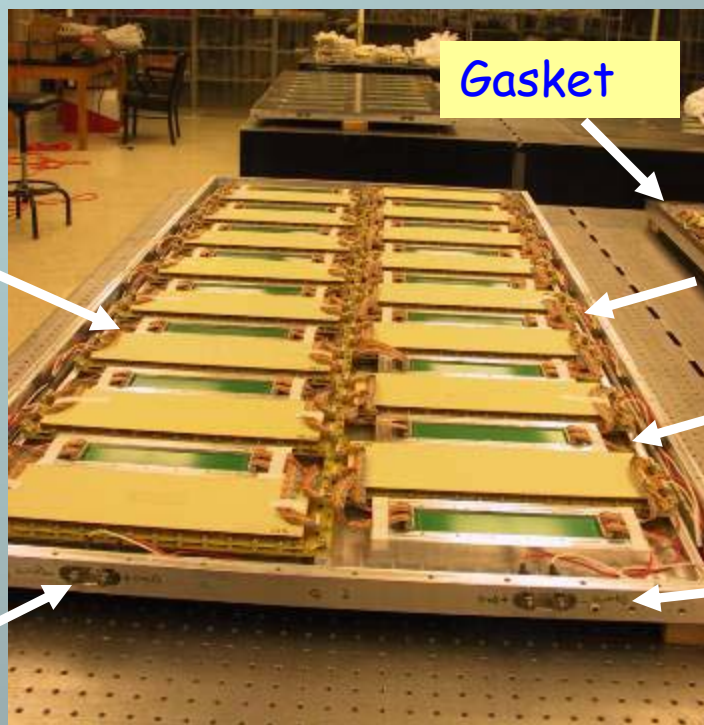
M
R
P
C
S

Feedthru boards

PHENIX

MRPC's

$\frac{1}{2}$ box with detectors



signal cables

Gasket

HV bus

Gas pipe

HV connectors

Holes for Installation/
mounting wheels

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TOF W Assembly



HBD Gas Supply



HBD transparency
monitor hutch ready to
install instrumentation
when it arrives



TOF/HBD Gas Shared
Flow Control Rack.
HBD to be single pass
for Run 6



HBD electronics rack
In Gas Mixing
House

HBD & TOF W Gas Systems



Gas Pad
Location for
CF₄ bottles

Scales to monitor
bottle contents



R134A Gas
Bottle Location

HBD Electronics



HBD low voltage
and signal
electronics rack
(installed on
east-central
pedestal)

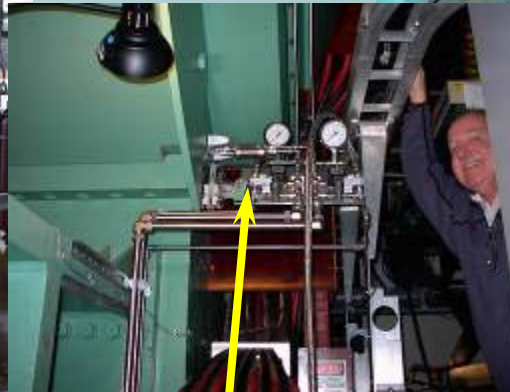


HBD High
Voltage Rack
(to be located
on Bridge)

HBD Gas Supply



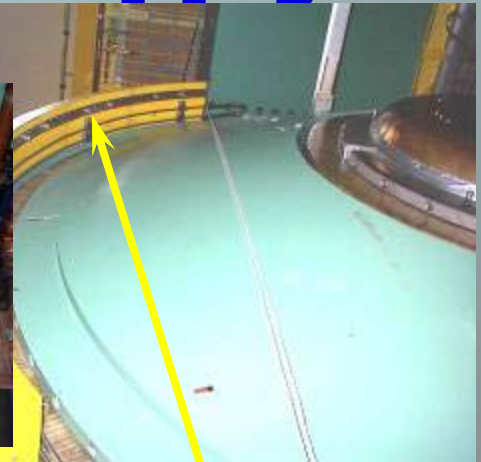
Gas Pad
Location for
CF4 bottles



HBD Gas flow panel
Installed. HBD in and out
lines are short circuited
and now flowing Argon to
maintain cleanliness.

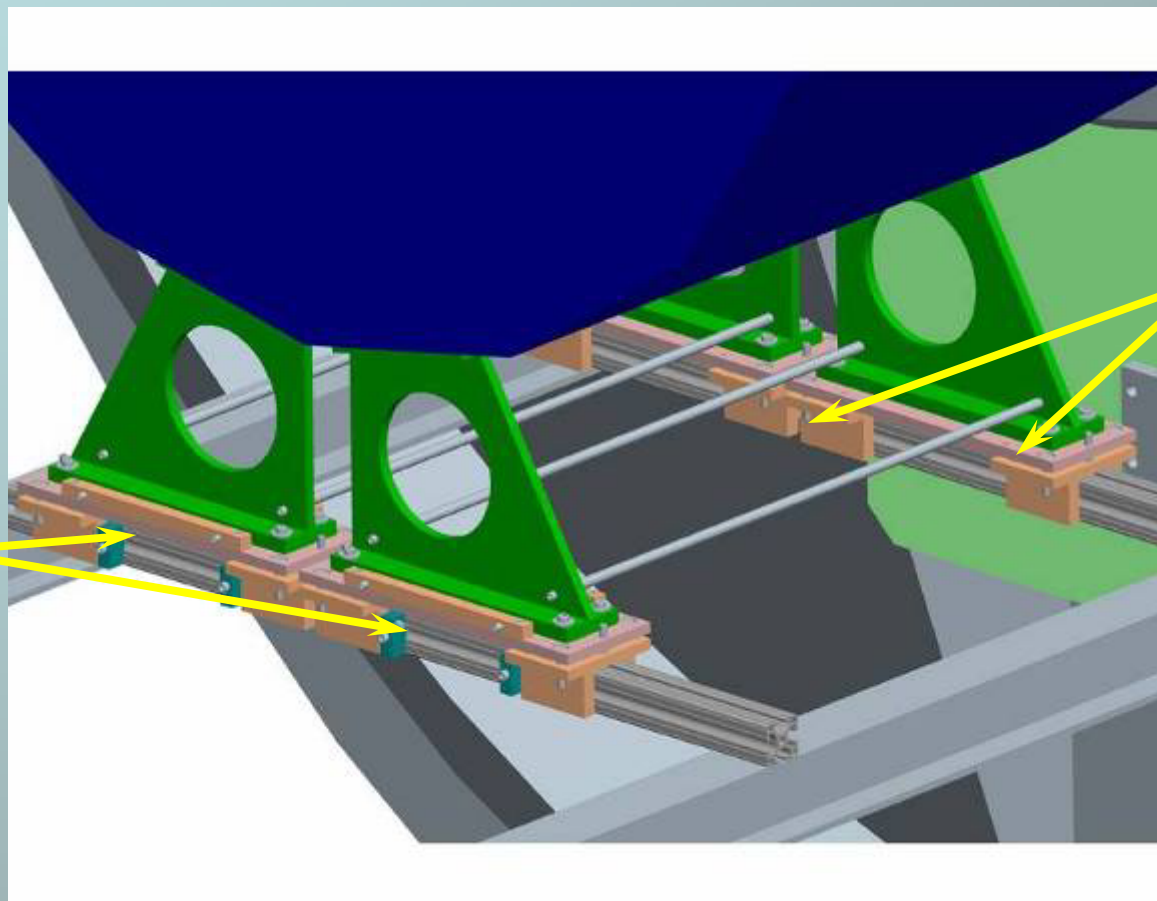


*Piping in IR complete. Flexible
lines allow CM to move for
maintenance*



Stainless Gas Lines to
top of CM

HBD Mechanical Support

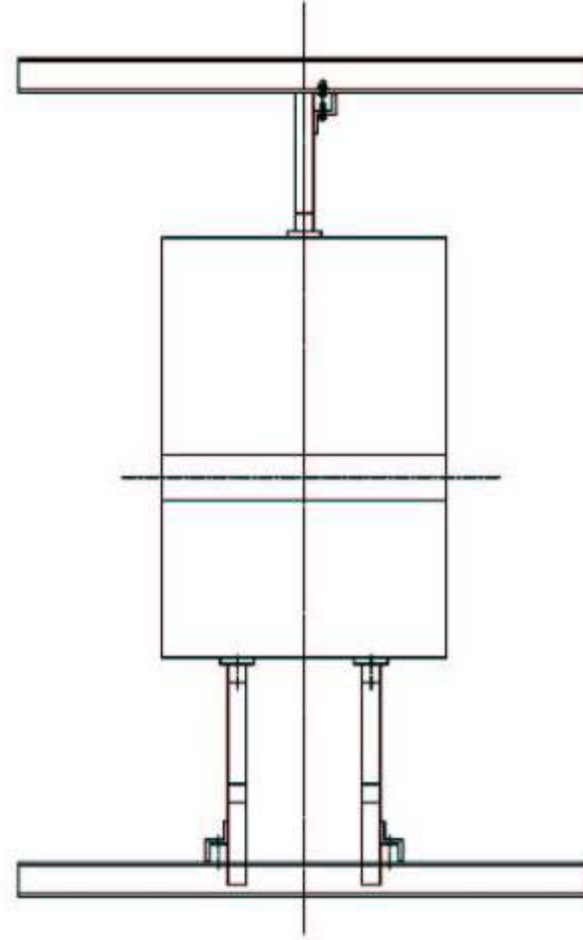
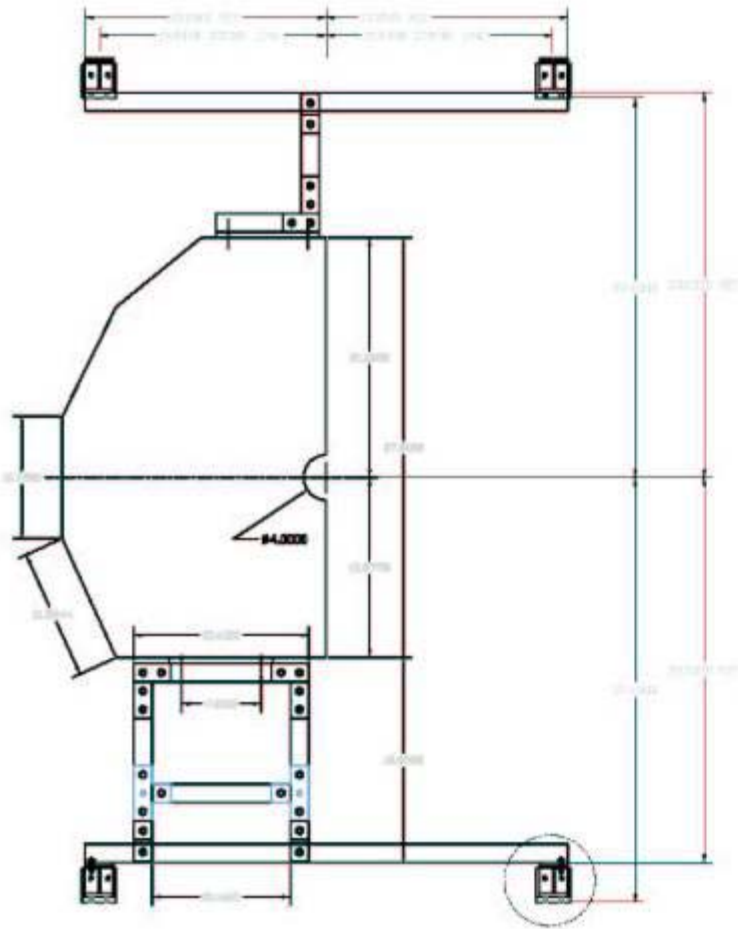


HBD Support
X, Y, Z
adjustments on
this side

HBD Support
X, Y
adjustments on
this side

*Design of details
complete ready
for fabrication.
Last minute
changes to HBD
mounting interface
to be addressed
before routing
drawings to shops
for fabrication.*

HBD Prototype Mounting

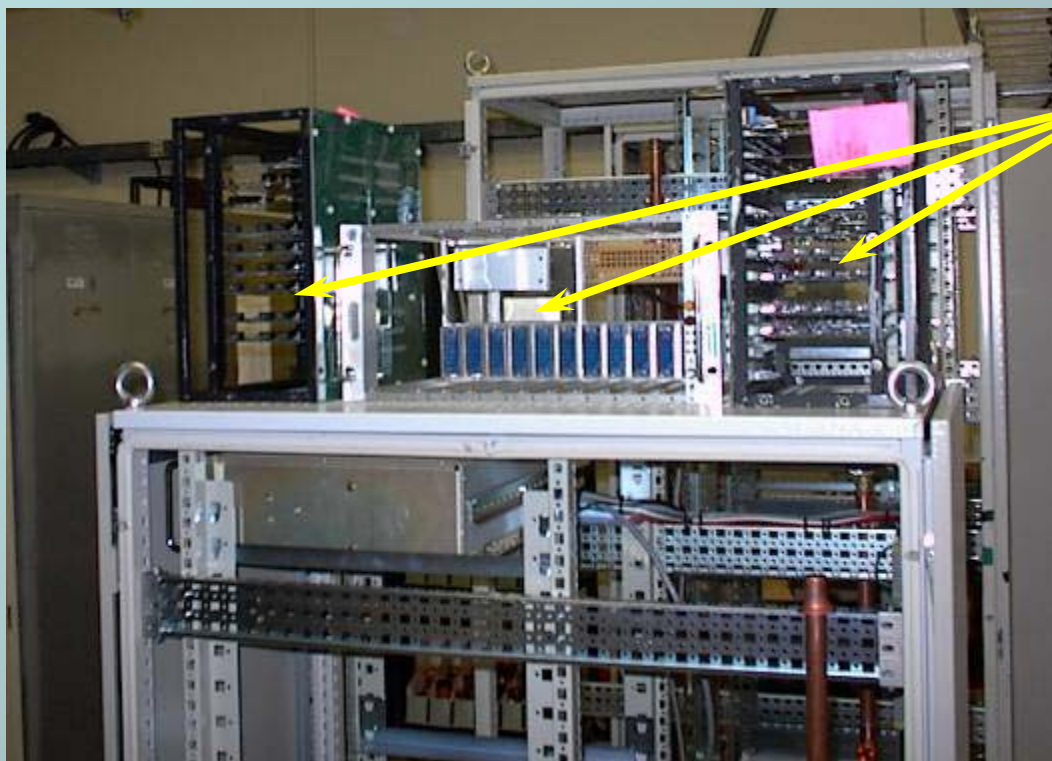


Prototype can not use final design mounting due to differences in location of connectors and other basic design differences.

Final HBD design is not yet fixed.

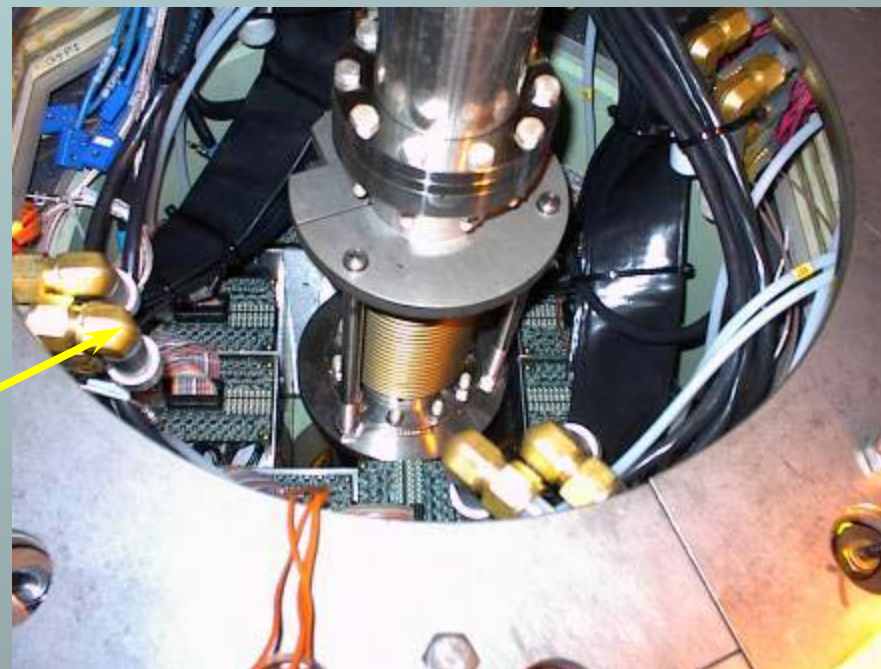
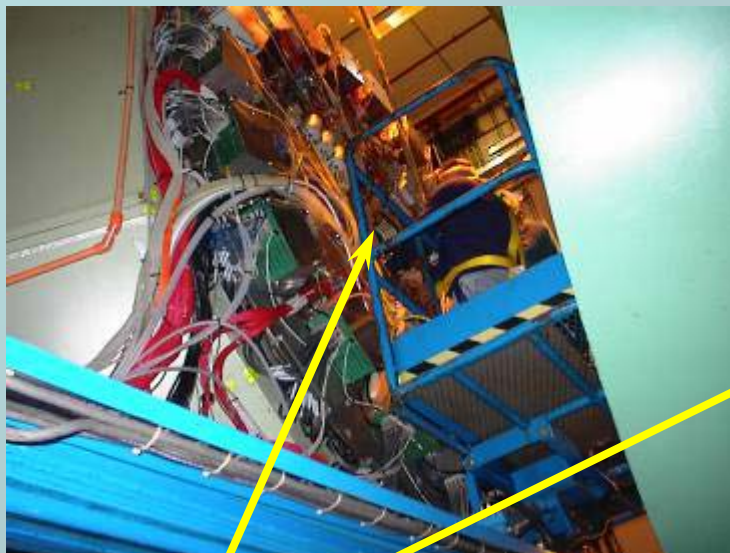
Prototype mounting to be fabricated from fg unistrut.

MPC Installation



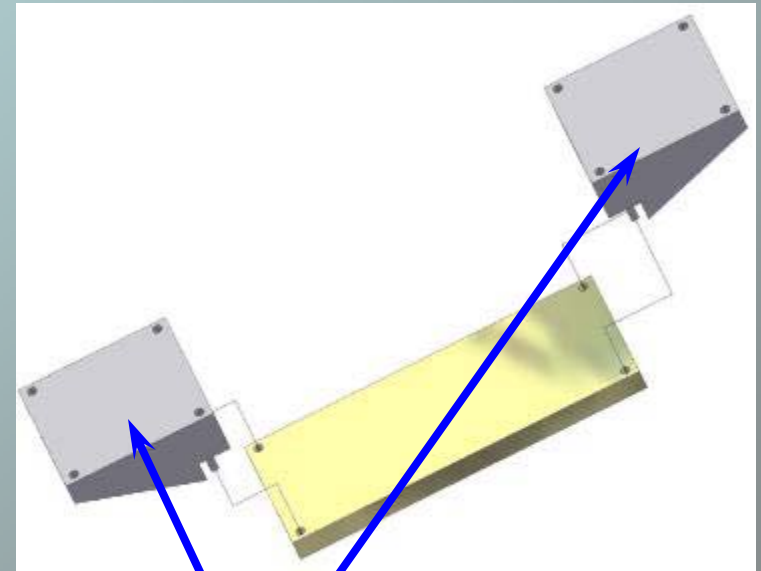
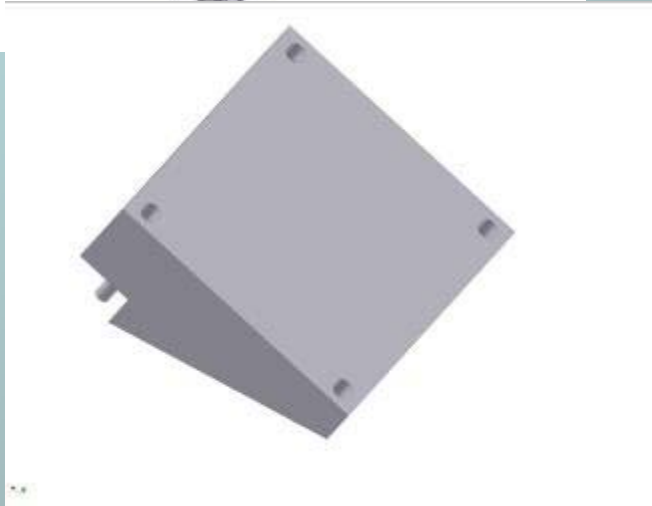
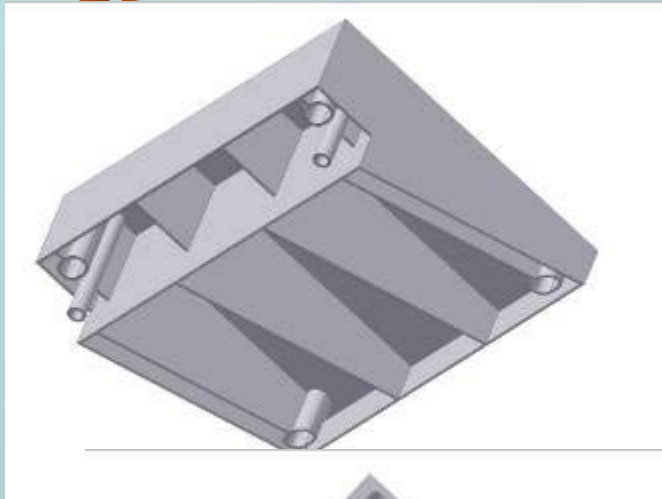
MPC electronics to be installed on top of MuTr rack on eyebrow. Electronics not ready yet. Expect by mid Feb.

MPC Installation



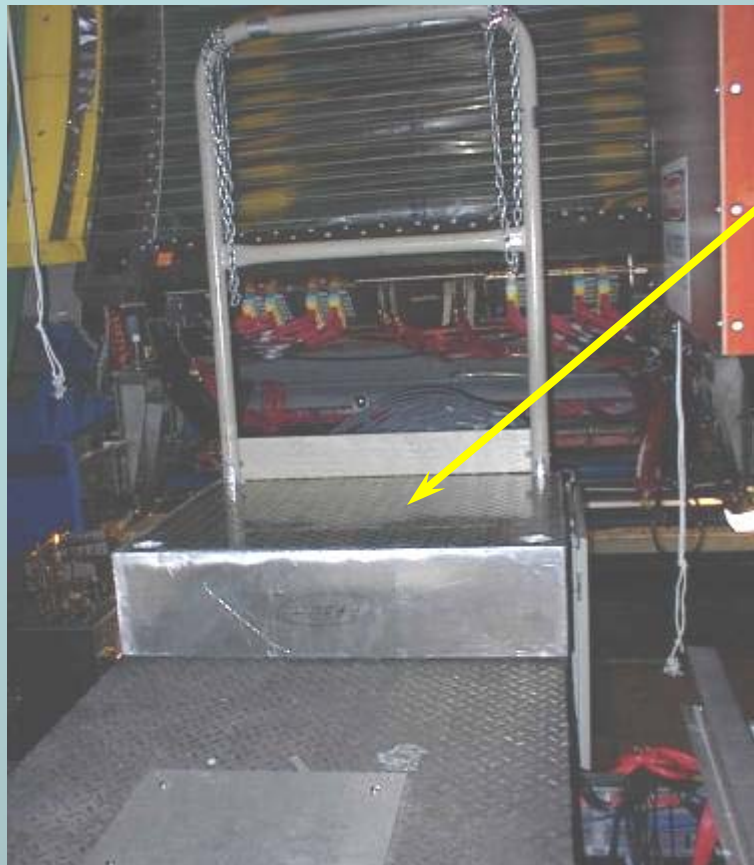
MPC South was installed in Jan. '06. MPC North scheduled to be installed Sept. '06.

HBD Installation/ Access

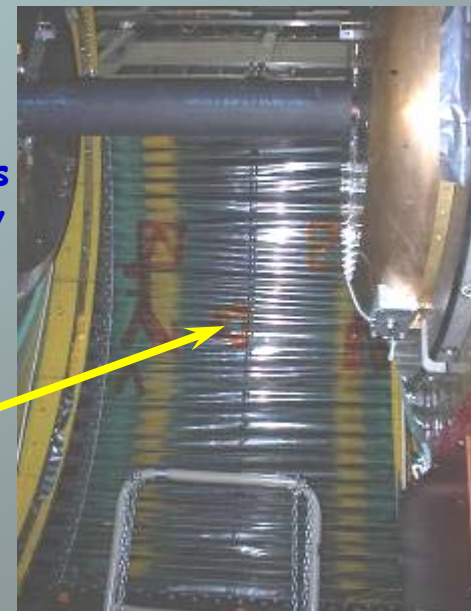


CM scissor lift table extensions completed Feb. '06 (extends table 22" east & west; steps up 8"). Allows maintenance and installation access to new CM detectors.

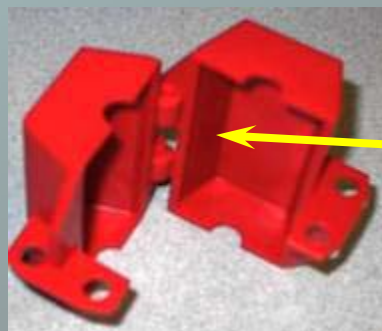
CM Lift Table Extensions



First extension received from Central Shops. Minor modification needed to mount rails. Otherwise works as planned. Was successfully used for DC repairs



Drift Chamber Repairs

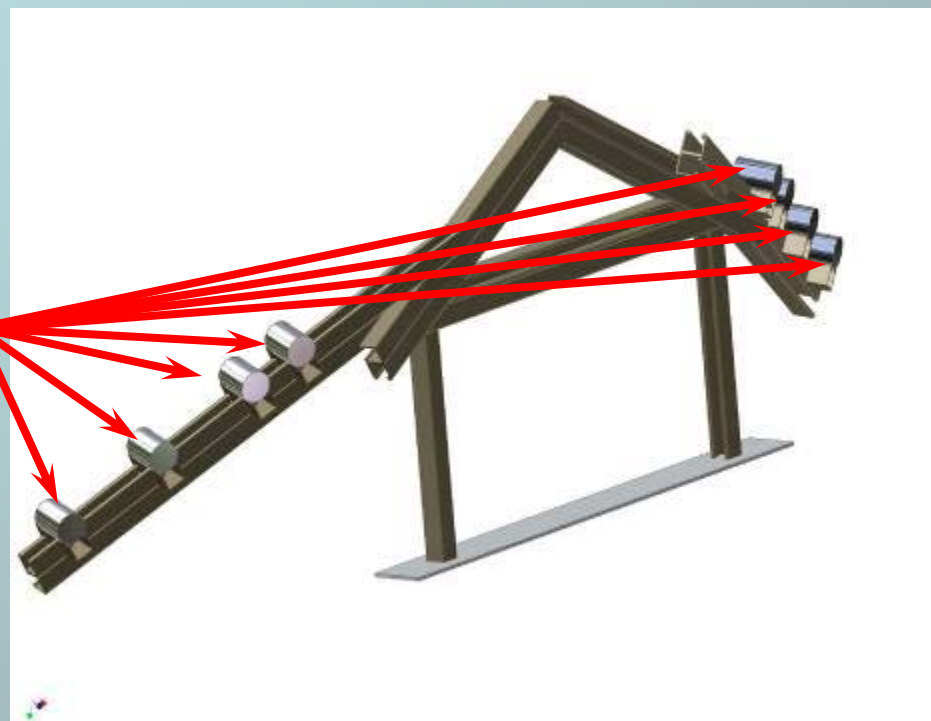


Plug lock for lift table. Table is to be operated by authorized techs only. To be locked out when BLM test fixture is installed.

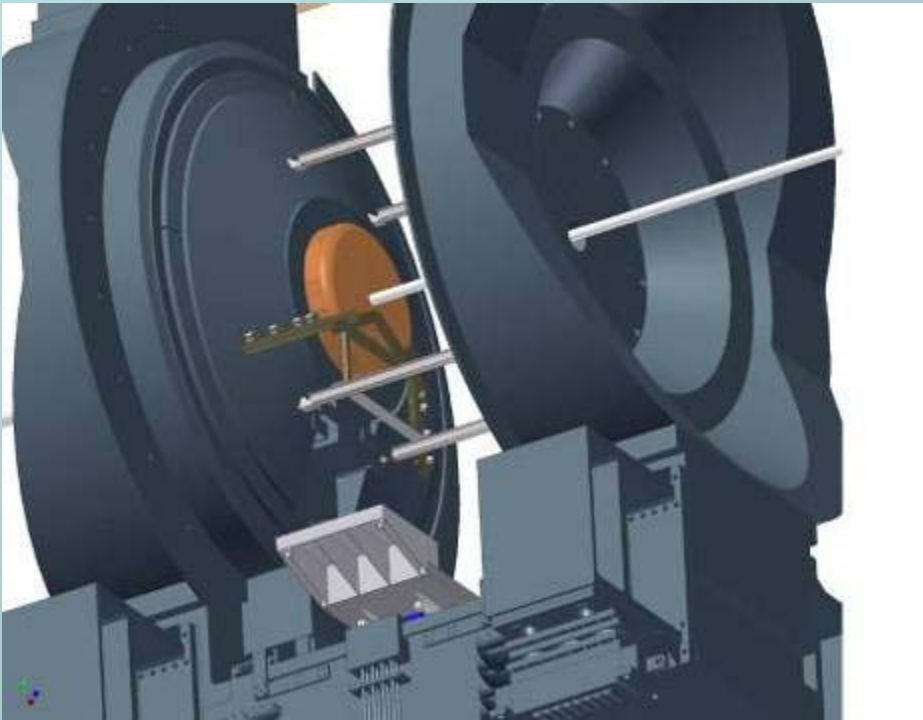
RXNP Magnet Field Tests

Made from fibreglas unistrut with precision cut angles. To be supported from lower HBD I-beams

PMT's

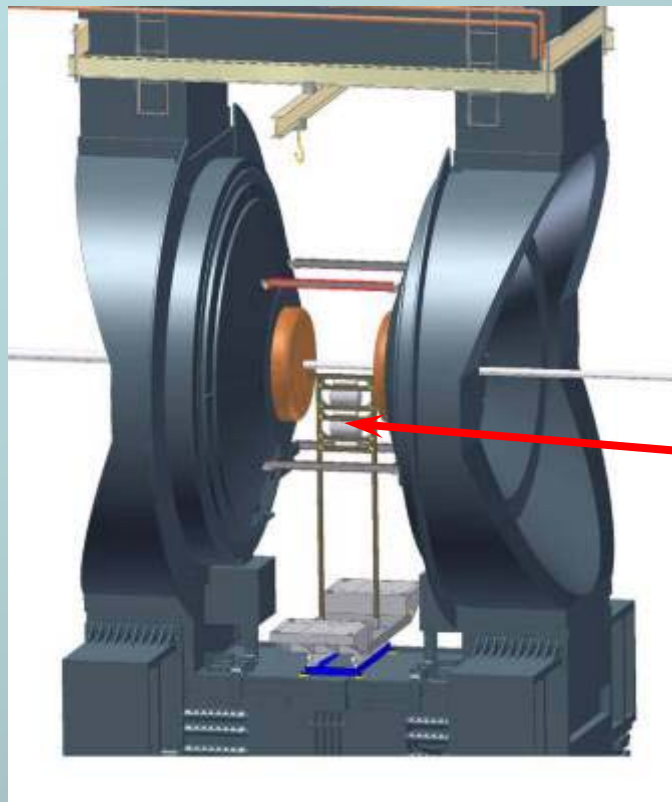


RXNP Magnet Field Tests



Installation

Beam Loss Monitors



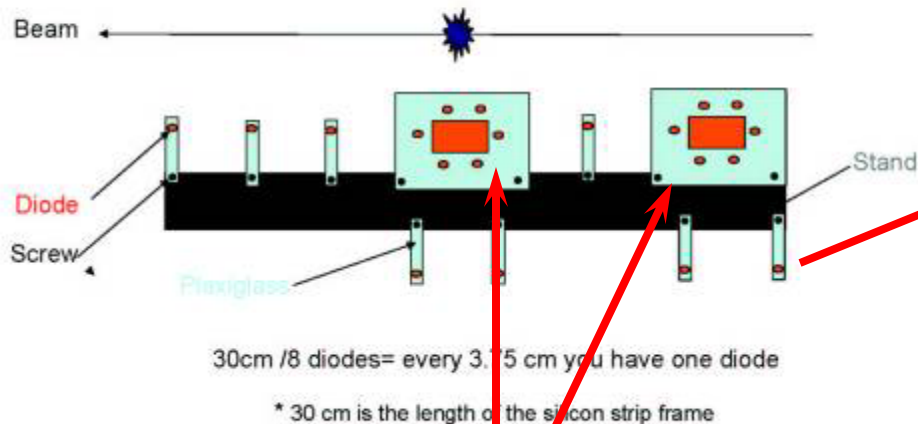
Stripixel sensors
and diodes go on
this surface

BLM Stand with
BLM's and
Chipmunks



Beam Loss Monitors

Idea for Mechanical Support of the Sensors/Diodes for Radiation Tests at IR



Bare stripixel sensors (2)



Need to make holders for diodes. 2 size diodes 8 of each for test.

PHENIX Technical Support 2006

LN₂ Storage Dewar for BBC

Acme Cryogenics 6000 Gallon vessel



23' long x 10'4" high, 7' wide
footprint 219psig MAWP, we would
set MOP to 125psig.

Original Mfr.:

Linde, NB #6363 ser.#206

Remanufactured by Chart



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PHENIX Technical Support 2006

LN₂ Storage Dewar for BBC



LN₂ Vessel to go here

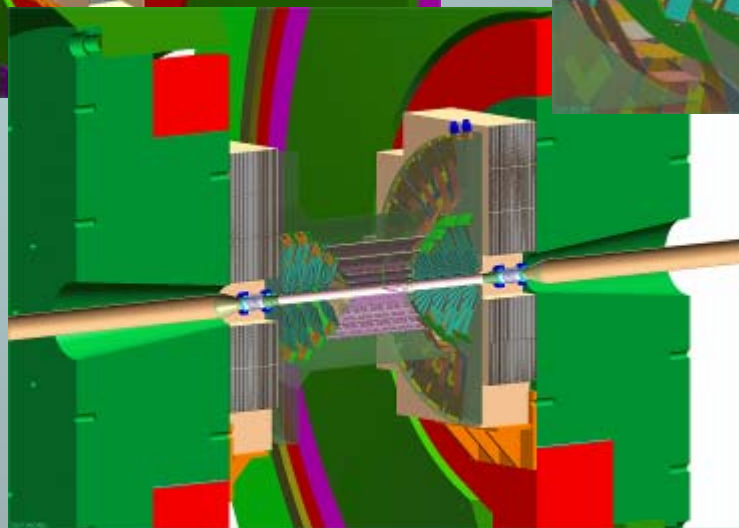
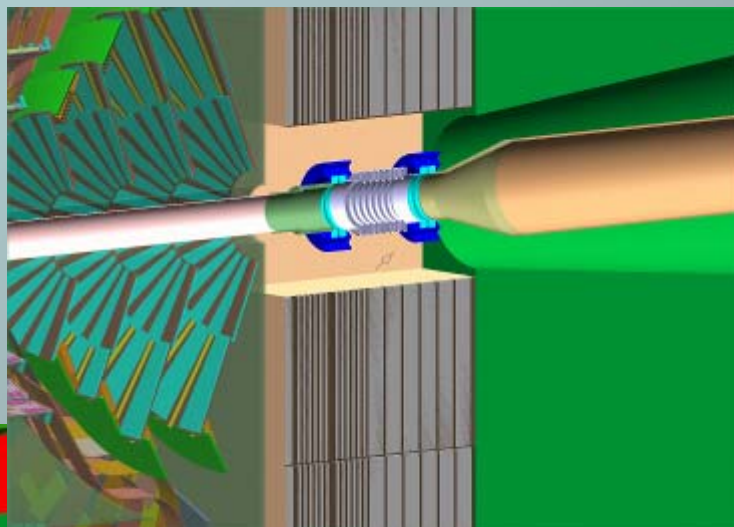
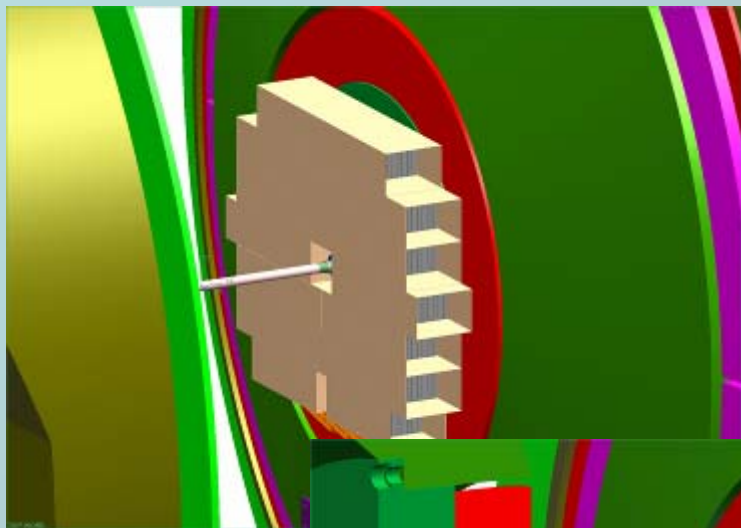
Experimental safety review required.



Shutdown 2006 Tasks

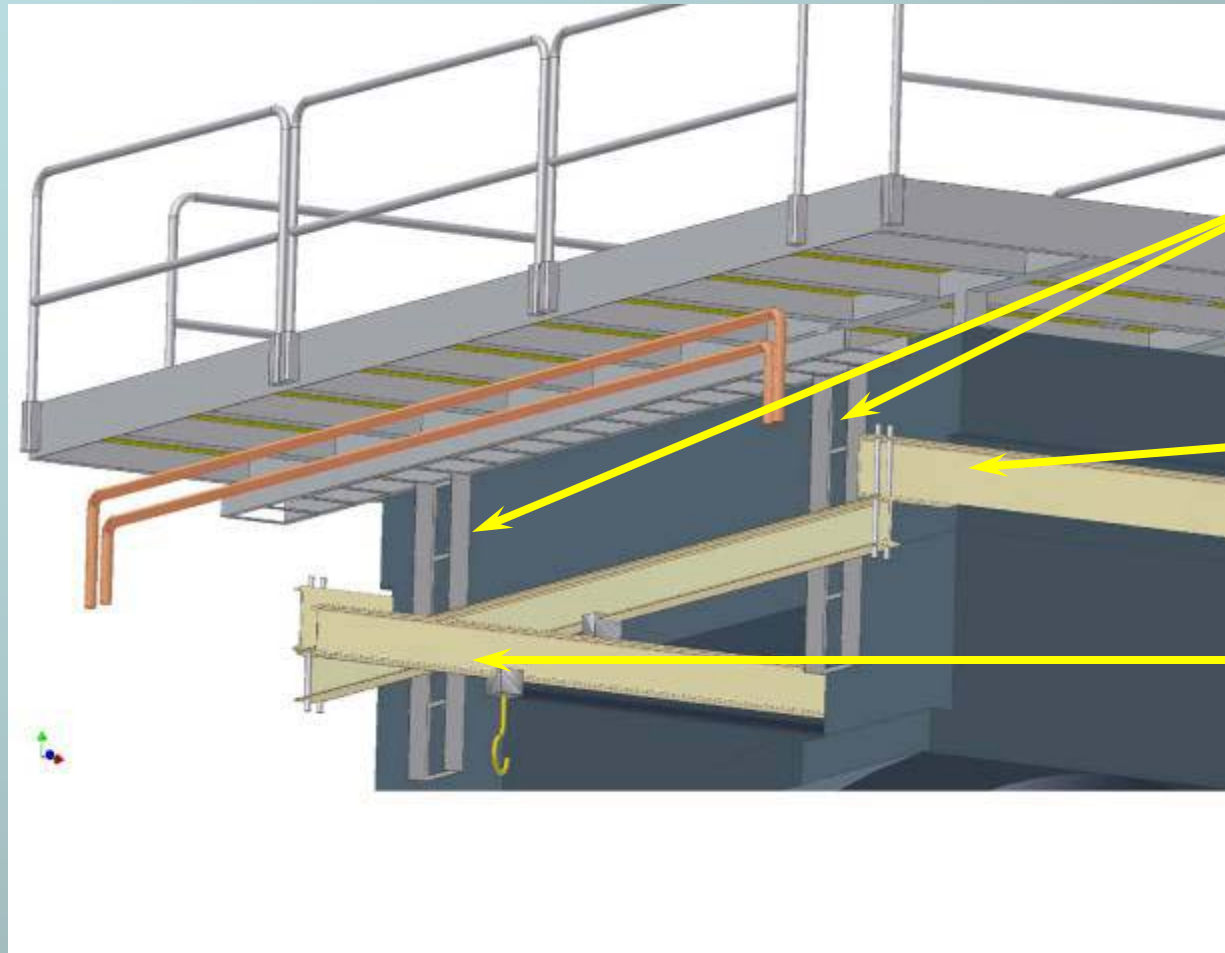
- CM Crane design
- Integration support work for Future Detectors (NCC, SVTX, FVTX, RPC) (New beampipe)
- CM region access stairs
- Discretionary improvements to existing equipment
 - EC: Fix/replace fibers, Noisy FEM's in DC, PC, DC water flow interlocks, TEC replace p/s and FEM's, ARCNET on fiber to all racks?
 - WC: Replace bucketless buckets in AGEL racks, noisy FEM's in DC, PC
 - MuTr & MuID: HV repair, troublesome FEM's, blue logic repairs, MUTR cosmic ray trigger with LL1?
 - E F & I: Verify installation of transient suppression in all racks, Bucket maintenance, Fan replacement, Communication testing to UVC HV mainframes, tighten connections on distribution panels, fiber repairs

New Beampipe for Upgrades



A concept discussed between Jan Boissevain of LANL and D. Lynch of BNL. Requires support built in to NCC and temporary isolating support to move CM.

CM Region Crane & Cable Routing Concept



**Cable Trays
to route
cables NCC
Detector from
Bridge**

**Crane Supports
use existing flux
return notches**

**CM Crane north-
south & east-west
motions; extended
travel east to
existing crane
coverage**

CM Region Stairs



Something a little more substantial would be nice

Additional Beneficial Work for S/D 2006

- DAQ Electronics: Replace/test GL12GTM, STTP's, blue logic trigger racks?
- Computing: Backups: test reliability, weed out unreliable hardware and servers, upgrade network
- Gas System
 - Reinstall all recalibrated mass flow controllers in gas racks
 - Rearrange regulator and flow meters for N2 on TEC and TOFW PID controllers
 - Purchase Calibration gas for TEC ethane analyzer
 - R & R TEC gas manifolds to accommodate work on pre-amp/shaper boards

Preliminary CA Task List for Shutdown 2006

- Replace emergency fan louvres
- Rewire/add IR ceiling lights on emergency power
- Replace WC sliding platform hoisting cables
- Analyze/balance rack water distribution
- Mixing house exhaust fan maintenance

Conservation & Housekeeping

- **Energy Conservation**
- **Clean/organize under the tracks**
- **Move extra I-beams & pipe to storage**
- **Electronics lab (new shelves?)**
- **Clean & organize storage areas:**
 - **Assembly hall**
 - **Shelves near transformers**
 - **Trailers**
 - **Wire**

To Be Determined